● PRINTER RUSH ●
(PTO ASSISTANCE)

Application: 09/662228   **Examiner:** Opie   **GAU:** 2126

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DOC CODE	DOC DATE	MISCELLANEOUS
☐ 1449	_____	☐ Continuing Data
☐ IDS	_____	☐ Foreign Priority
☐ CLM	_____	☐ Document Legibility
☐ IIFW	_____	☐ Fees
☐ SRFW	_____	☐ Other
☐ DRW	_____	
☐ OATH	_____	
☐ 312	_____	
☒ SPEC	9/14/00	

[RUSH] MESSAGE: ① Pages 116-119 have ser no./date stamp interference + slightly cut off on lefthandside

② Pages 126-128 have illegible text. Please restore. Thank You

5142677 / 5319789 / 5313648 / 5349687 / 5550993 / 6134578
above patent numbers have same date

[XRUSH] RESPONSE: Corrected

See Attachment

INITIALS: KP

NOTE: This form will be included as part of the official USPTO record, with the Response document coded as XRUSH.

REV 10/04

09/662,228

1-13/2

INSTRUCTION	MNEU	OPCODE			IMMEDIATE
LOAD AR FROM ADDRESSED DATA	LAR	0 0 0 0	0 A R X	I A A A A A A A	
ADD TO AR SHORT IMMEDIATE	AORK	0 0 0 0	1 0 0 0	I I I I I I I I	
SUBTRACT FROM AR SHORT IMMEDIATE	SBRK	0 0 0 0	1 0 0 1	I I I I I I I I	
MODIFY AUXILIARY REGISTER	MAR	0 0 0 0	1 0 1 0	I A A A A A A A	
EXCLUSIVE OR DBMR TO DATA VALUE	XPL	0 0 0 0	1 0 1 1	I A A A A A A A	
OR DBMR TO DATA VALUE	OPL	0 0 0 0	1 1 0 0	I A A A A A A A	
AND DBMR WITH DATA VALUE	APL	0 0 0 0	1 1 0 1	I A A A A A A A	
COMPARE DBMR TO DATA VALUE	CPL	0 0 0 0	1 1 1 1	I A A A A A A A	
TEST BIT SPECIFIED IMMEDIATE	BIT	0 0 0 1	B I T X	I A A A A A A A	
LOAD ACCUMULATOR WITH SHIFT	LAC	0 0 1 0	S H F T	I A A A A A A A	
ADD TO ACCUMULATOR WITH SHIFT	ADD	0 0 1 1	S H F T	I A A A A A A A	
SUBTRACT FROM ACCUMULATOR WITH SHIFT	SUB	0 1 0 0	S H F T	I A A A A A A A	
ZERO ACC, LOAD HIGH ACC WITH ROUNDING	ZALR	0 1 0 1	0 0 0 0	I A A A A A A A	
ZERO ACC, LOAD HIGH ACCUMULATOR	ZALH	0 1 0 1	0 0 0 1	I A A A A A A A	
ZERO ACC, LOAD LOW ACC WITH SIGN SUPPRESSED	ZALS	0 1 0 1	0 0 1 0	I A A A A A A A	
LOAD ACC WITH SHIFT SPECIFIED BY TREG1	LACT	0 1 0 1	0 0 1 1	I A A A A A A A	
MULTIPLY DATA VALUE TIMES TREG0	MPY	0 1 0 1	0 1 0 0	I A A A A A A A	
MULTIPLY UNSIGNED DATA VALUE TIMES TREG0	MPYU	0 1 0 1	0 1 0 1	I A A A A A A A	
TEST BIT IN DATA VALUE AS SPECIFIED BY TREG2	BITT	0 1 0 1	0 1 1 0	I A A A A A A A	
NORMALIZE ACCUMULATOR	NORM	0 1 0 1	0 1 1 1	I A A A A A A A	
LOAD STATUS	LST	0 1 0 1	1 0 0 0	I A A A A A A A	
LOAD STATUS REGISTER 1	LST1	0 1 0 1	1 0 0 1	I A A A A A A A	
MULT/ACC WITH SOURCE ADDRESS IN DBMR	MADS	0 1 0 1	1 0 1 0	I A A A A A A A	
MULT/ACC WITH SOURCE ADRS IN DBMR AND DMOV	MADD	0 1 0 1	1 0 1 1	I A A A A A A A	
BLOCK MOVE DATA TO DATA WITH SOURCE IN DBMR	BDSD	0 1 0 1	1 1 0 0	I A A A A A A A	
BLOCK MOVE DATA TO DATA WITH DEST IN DBMR	BDDD	0 1 0 1	1 1 0 1	I A A A A A A A	
BLOCK MOVE DATA TO PROG WITH SOURCE IN DBMR	BPSD	0 1 0 1	1 1 1 0	I A A A A A A A	
BLOCK MOVE DATA TO DATA DEST LONG IMMEDIATE	BKDK	0 1 0 1	1 1 1 1	I A A A A A A A	A A A A A A A A A A A A A A A A
ADD TO ACCUMULATOR WITH CARRY	ADDC	0 1 1 0	0 0 0 0	I A A A A A A A	
ADD TO HIGH ACCUMULATOR	ADDH	0 1 1 0	0 0 0 1	I A A A A A A A	
ADD TO LOW ACCUMULATOR WITH SIGN SUPPRESSED	ADDS	0 1 1 0	0 0 1 0	I A A A A A A A	
ADD TO ACC WITH SHIFT SPECIFIED BY TREG1	ADDT	0 1 1 0	0 0 1 1	I A A A A A A A	
MULTIPLY TREG0 BY DATA, ADD PREVIOUS PRODUCT	MPYA	0 1 1 0	0 1 0 0	I A A A A A A A	
DATA TO TREG0, SQUARE IT, ADD PREG TO ACC	SQRA	0 1 1 0	0 1 0 1	I A A A A A A A	
LOAD TREG0 AND ACCUMULATE PREVIOUS PRODUCT	LTA	0 1 1 0	0 1 1 0	I A A A A A A A	
LOAD TREG0 WITH DATA SHIFT, ADD PREG TO ACC	LTD	0 1 1 0	0 1 1 1	I A A A A A A A	
LOAD TREG0	LT	0 1 1 0	1 0 0 0	I A A A A A A A	
LOAD TREG0 AND LOAD ACC WITH PREG	LTP	0 1 1 0	1 0 0 1	I A A A A A A A	
EXCLUSIVE OR ACCUMULATOR WITH DATA VALUE	XOR	0 1 1 0	1 0 1 0	I A A A A A A A	
OR ACCUMULATOR WITH DATA VALUE	OR	0 1 1 0	1 0 1 1	I A A A A A A A	
AND ACCUMULATOR WITH DATA VALUE	AND	0 1 1 0	1 1 0 0	I A A A A A A A	
TABLE WRITE	TBLW	0 1 1 0	1 1 0 1	I A A A A A A A	
RESERVED					
RESERVED					
SUBTRACT FROM ACCUMULATOR WITH BORROW	SUBB	0 1 1 1	0 0 0 0	I A A A A A A A	

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SUBTRACT FROM HIGH ACCUMULATOR              SUBH   0 1 1 1   0 0 0 1   I A A A   A A A A
SUBTRACT FROM ACC WITH SIGN SUPPRESSED      SUBS   0 1 1 1   0 0 1 0   I A A A   A A A A
SUBTRACT FROM ACC, SHIFT SPECIFIED BY TREG1 SUBT   0 1 1 1   0 0 1 1   I A A A   A A A A
MULTIPLY TREG0 BY DATA, ACC - PREG          MPYS   0 1 1 1   0 1 0 0   I A A A   A A A A
DATA TO TREG0, SQUARE IT, ACC - PREG        SQRS   0 1 1 1   0 1 0 1   I A A A   A A A A
LOAD TREG0 AND SUBTRACT PREVIOUS PRODUCT    LTS    0 1 1 1   0 1 1 0   I A A A   A A A A
CONDITIONAL SUBTRACT                        SUBC   0 1 1 1   0 1 1 1   I A A A   A A A A
REPEAT INSTRUCTION AS SPECIFIED BY DATA     RPT    0 1 1 1   1 0 0 0   I A A A   A A A A
LOAD DATA PAGE POINTER WITH ADDRESSED DATA  LDP    0 1 1 1   1 0 0 1   I A A A   A A A A
PUSH DATA MEMORY VALUE ONTO PC STACK        PSHD   0 1 1 1   1 0 1 0   I A A A   A A A A
DATA MOVE IN DATA MEMORY                    DMOV   0 1 1 1   1 0 1 1   I A A A   A A A A
LOAD HIGH PRODUCT REGISTER                  LPH    0 1 1 1   1 1 0 0   I A A A   A A A A
RESERVED
RESERVED
RESERVED


STORE LOW ACCUMULATOR WITH SHIFT            SACL   1 0 0 0   0 S H F   I A A A   A A A A
STORE HIGH ACCUMULATOR WITH SHIFT           SACH   1 0 0 0   1 S H F   I A A A   A A A A


STORE AR TO ADDRESSED DATA                  SAR    1 0 0 1   0 A R X   I A A A   A A A A


STORE STATUS                                SST    1 0 0 1   1 0 0 0   I A A A   A A A A
STORE STATUS REGISTER 1                      SST1   1 0 0 1   1 0 0 1   I A A A   A A A A
TABLE READ                                  TBLR   1 0 0 1   1 0 1 0   I A A A   A A A A
STORE LOW PRODUCT REGISTER                  SPL    1 0 0 1   1 0 1 1   I A A A   A A A A
STORE HIGH PRODUCT REGISTER                 SPH    1 0 0 1   1 1 0 0   I A A A   A A A A
POP STACK TO DATA MEMORY                    POPD   1 0 0 1   1 1 0 1   I A A A   A A A A
BLOCK MOVE PROG TO DATA WITH SOURCE IN DBMR BPDS   1 0 0 1   1 1 1 0   I A A A   A A A A
BLOCK MOVE FROM PROGRAM TO DATA MEMORY      BLKP   1 0 0 1   1 1 1 1   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A


MULTIPLY/ACCUMULATE                         MAC    1 0 1 0   0 0 0 0   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A
MULTIPLY/ACCUMULATE WITH DATA SHIFT         MACD   1 0 1 0   0 0 0 1   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A
BRANCH UNCONDITIONAL WITH AR UPDATE         B      1 0 1 0   0 0 1 0   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A
CALL UNCONDITIONAL WITH AR UPDATE           CALL   1 0 1 0   0 0 1 1   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A
BRANCH AR = 0 WITH AR UPDATE                BANZ   1 0 1 0   0 1 0 0   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A
BRANCH UNCONDITIONAL WITH AR UPDATE DELAYED BD     1 0 1 0   0 1 0 1   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A
CALL UNCONDITIONAL WITH AR UPDATE DELAYED   CALD   1 0 1 0   0 1 1 0   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A
BRANCH AR = 0 WITH AR UPDATE DELAYED        BAZD   1 0 1 0   0 1 1 1   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A


LOAD MEMORY MAPPED REGISTER                 LMMR   1 0 1 0   1 0 0 0   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A
STORE MEMORY MAPPED REGISTER                SMMR   1 0 1 0   1 0 0 1   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A
BLOCK MOVE FROM DATA TO DATA MEMORY         BLKD   1 0 1 0   1 0 1 0   I A A A   A A A A   A A A A   A A A A   A A A A   A A A A
STORE LONG IMMEDIATE TO DATA                SPLK   1 0 1 0   1 0 1 1   I A A A   A A A A   I I I I   I I I I   I I I I   I I I I
EXCLUSIVE OR LONG IMMEDIATE WITH DATA VALUE XPLK   1 0 1 0   1 1 0 0   I A A A   A A A A   I I I I   I I I I   I I I I   I I I I
OR LONG IMMEDIATE WITH DATA VALUE           OPLK   1 0 1 0   1 1 0 1   I A A A   A A A A   I I I I   I I I I   I I I I   I I I I
AND LONG IMMEDIATE WITH DATA VALUE          APLK   1 0 1 0   1 1 1 0   I A A A   A A A A   I I I I   I I I I   I I I I   I I I I
COMPARE DATA WITH LONG IMMEDIATE SET TC IF =CPLK   1 0 1 0   1 1 1 1   I A A A   A A A A   I I I I   I I I I   I I I I   I I I I


LOAD AR SHORT IMMEDIATE                     LARK   1 0 1 1   0 A R X   I I I I   I I I I
ADD TO LOW ACC SHORT IMMEDIATE             ADDK   1 0 1 1   1 0 0 0   I I I I   I I I I
LOAD ACC SHORT IMMEDIATE                    LACK   1 0 1 1   1 0 0 1   I I I I   I I I I
SUBTRACT FROM ACC SHORT IMMEDIATE           SUBK   1 0 1 1   1 0 1 0   I I I I   I I I I
REPEAT INST SPECIFIED BY SHORT IMMEDIATE    RPTK   1 0 1 1   1 0 1 1   I I I I   I I I I
LOAD DATA PAGE IMMEDIATE                    LDPK   1 0 1 1   1 1 0 I   I I I I   I I I I
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SHORT IMMEDIATES

69/662,228 (handwritten) *1/26/95* (handwritten)

ABSOLUTE VALUE OF ACCUMULATOR	ABS	1 0 1 1	1 1 1 0	0 0 0 0	0 0 0 0
COMPLEMENT ACCUMULATOR	CMPL	1 0 1 1	1 1 1 0	0 0 0 0	0 0 0 1
NEGATE ACCUMULATOR	NEG	1 0 1 1	1 1 1 0	0 0 0 0	0 0 1 0
LOAD ACCUMULATOR WITH PRODUCT	PAC	1 0 1 1	1 1 1 0	0 0 0 0	0 0 1 1
ADD PRODUCT TO ACCUMULATOR	APAC	1 0 1 1	1 1 1 0	0 0 0 0	0 1 0 0
SUBTRACT PRODUCT FROM ACCUMULATOR	SPAC	1 0 1 1	1 1 1 0	0 0 0 0	0 1 0 1
ADD BPR TO ACCUMULATOR	ABPR	1 0 1 1	1 1 1 0	0 0 0 0	0 1 1 0
LOAD ACCUMULATOR WITH BPR	LBPR	1 0 1 1	1 1 1 0	0 0 0 0	0 1 1 1
SUBTRACT BPR FROM ACCUMULATOR	SBPR	1 0 1 1	1 1 1 0	0 0 0 0	1 0 0 0
SHIFT ACCUMULATOR 1 BIT LEFT	SFL	1 0 1 1	1 1 1 0	0 0 0 0	1 0 0 1
SHIFT ACCUMULATOR 1 BIT RIGHT	SFR	1 0 1 1	1 1 1 0	0 0 0 0	1 0 1 0
ROTATE ACCUMULATOR 1 BIT LEFT	ROL	1 0 1 1	1 1 1 0	0 0 0 0	1 1 0 0
ROTATE ACCUMULATOR 1 BIT RIGHT	ROR	1 0 1 1	1 1 1 0	0 0 0 0	1 1 0 1
ADD ACCB TO ACCUMULATOR	ADDR	1 0 1 1	1 1 1 0	0 0 0 1	0 0 0 0
ADD ACCB TO ACCUMULATOR WITH CARRY	ADCR	1 0 1 1	1 1 1 0	0 0 0 1	0 0 0 1
AND ACCB WITH ACCUMULATOR	ANDR	1 0 1 1	1 1 1 0	0 0 0 1	0 0 1 0
OR ACCB WITH ACCUMULATOR	ORR	1 0 1 1	1 1 1 0	0 0 0 1	0 0 1 1
ROTATE ACCB AND ACCUMULATOR LEFT	ROLR	1 0 1 1	1 1 1 0	0 0 0 1	0 1 0 0
ROTATE ACCB AND ACCUMULATOR RIGHT	RORR	1 0 1 1	1 1 1 0	0 0 0 1	0 1 0 1
SHIFT ACCB AND ACCUMULATOR LEFT	SFLR	1 0 1 1	1 1 1 0	0 0 0 1	0 1 1 0
SHIFT ACCB AND ACCUMULATOR RIGHT	SFRR	1 0 1 1	1 1 1 0	0 0 0 1	0 1 1 1
SUBTRACT ACCB FROM ACCUMULATOR	SUBR	1 0 1 1	1 1 1 0	0 0 0 1	1 0 0 0
SUBTRACT ACCB FROM ACCUMULATOR WITH CARRY	SBBR	1 0 1 1	1 1 1 0	0 0 0 1	1 0 0 1
EXCLUSIVE OR ACCB WITH ACCUMULATOR	XORR	1 0 1 1	1 1 1 0	0 0 0 1	1 0 1 0
STORE ACC IN ACCB IF ACC > ACCR	CRGT	1 0 1 1	1 1 1 0	0 0 0 1	1 0 1 1
STORE ACC IN ACCB IF ACC < ACCR	CRLT	1 0 1 1	1 1 1 0	0 0 0 1	1 1 0 0
EXCHANGE ACCR WITH ACCUMULATOR	EXAR	1 0 1 1	1 1 1 0	0 0 0 1	1 1 0 1
STORE ACCUMULATOR IN ACCB	SACR	1 0 1 1	1 1 1 0	0 0 0 1	1 1 1 0
LOAD ACCUMULATOR WITH ACCB	LACB	1 0 1 1	1 1 1 0	0 0 0 1	1 1 1 1
BRANCH ADDRESSED BY ACC	BACC	1 0 1 1	1 1 1 0	0 0 1 0	0 0 0 0
BRANCH ADDRESSED BY ACC DELAYED	BACD	1 0 1 1	1 1 1 0	0 0 1 0	0 0 0 1
IDLE	IDLE	1 0 1 1	1 1 1 0	0 0 1 0	0 0 1 0
PUSH LOW ACCUMULATOR TO PC STACK	PUSH	1 0 1 1	1 1 1 0	0 0 1 1	0 0 0 0
POP PC STACK TO LOW ACCUMULATOR	POP	1 0 1 1	1 1 1 0	0 0 1 1	0 0 0 1
CALL SUBROUTINE ADDRESSED BY ACC	CALA	1 0 1 1	1 1 1 0	0 0 1 1	0 0 1 0
CALL SUBROUTINE ADDRESSED BY ACC DELAYED	CLAD	1 0 1 1	1 1 1 0	0 0 1 1	0 0 1 1
TRAP TO LOW VECTOR	TRAP	1 0 1 1	1 1 1 0	0 0 1 1	0 1 0 0
TRAP TO LOW VECTOR DELAYED	TRPD	1 0 1 1	1 1 1 0	0 0 1 1	0 1 0 1
EMULATOR TRAP TO LOW VECTOR DELAYED	ETRP	1 0 1 1	1 1 1 0	0 0 1 1	0 1 1 1
RETURN FROM INTERRUPT	RETI	1 0 1 1	1 1 1 0	0 0 1 1	1 0 0 0
RETURN FROM INTERRUPT DELAYED	RTID	1 0 1 1	1 1 1 0	0 0 1 1	1 0 0 1
RETURN FROM INTERRUPT WITH ENABLE	RETE	1 0 1 1	1 1 1 0	0 0 1 1	1 0 1 0
RETURN FROM INTERRUPT WITH ENABLE DELAYED	RTED	1 0 1 1	1 1 1 0	0 0 1 1	1 0 1 1
GLOBAL INTERRUPT ENABLE	EINT	1 0 1 1	1 1 1 0	0 1 0 0	0 0 0 0
GLOBAL INTERRUPT DISABLE	DINT	1 0 1 1	1 1 1 0	0 1 0 0	0 0 0 1
RESET OVERFLOW MODE	ROVM	1 0 1 1	1 1 1 0	0 1 0 0	0 0 1 0
SET OVERFLOW MODE	SOVM	1 0 1 1	1 1 1 0	0 1 0 0	0 0 1 1
CONFIGURE BLOCK AS DATA MEMORY	CNFD	1 0 1 1	1 1 1 0	0 1 0 0	0 1 0 0
CONFIGURE BLOCK AS PROGRAM MEMORY	CNFP	1 0 1 1	1 1 1 0	0 1 0 0	0 1 0 1
RESET SIGN EXTENSION MODE	RSXM	1 0 1 1	1 1 1 0	0 1 0 0	0 1 1 0
SET SIGN EXTENSION MODE	SSXM	1 0 1 1	1 1 1 0	0 1 0 0	0 1 1 1
SET XF PIN LOW	RXF	1 0 1 1	1 1 1 0	0 1 0 0	0 1 0 0

SET XF PIN HIGH	SXF	1 0 1 1	1 1 1 0	0 1 0 0	1 1 0 1				
RESET CARRY	RC	1 0 1 1	1 1 1 0	0 1 0 0	1 1 1 0				
SET CARRY	SC	1 0 1 1	1 1 1 0	0 1 0 0	1 1 1 1				
RESET TC BIT	RTC	1 0 1 1	1 1 1 0	0 1 0 0	1 1 1 0				
SET TC BIT	STC	1 0 1 1	1 1 1 0	0 1 0 0	1 1 1 1				
RESET HOLD MODE	RHM	1 0 1 1	1 1 1 0	0 1 0 0	1 0 0 0				
SET HOLD MODE	SHM	1 0 1 1	1 1 1 0	0 1 0 0	1 0 0 1				

STORE PRODUCT IN BPR	SPB	1 0 1 1	1 1 1 0	0 1 0 0	1 1 0 0				
LOAD PRODUCT FROM BPR	LPB	1 0 1 1	1 1 1 0	0 1 0 0	1 1 0 1				

LONG IMMEDIATES

MULTIPLY LONG IMMEDIATE BY TREG0	MRKL	1 0 1 1	1 1 1 0	1 0 0 0	0 0 0 0	I I I I	I I I I	I I I I	I I I I
AND WITH ACC LONG IMMEDIATE	ANDK	1 0 1 1	1 1 1 0	1 0 0 0	0 0 0 1	I I I I	I I I I	I I I I	I I I I
OR WITH ACC LONG IMMEDIATE	ORK	1 0 1 1	1 1 1 0	1 0 0 0	0 0 1 0	I I I I	I I I I	I I I I	I I I I
XOR WITH ACCUMULATOR LONG IMMEDIATE	XORK	1 0 1 1	1 1 1 0	1 0 0 0	0 0 1 1	I I I I	I I I I	I I I I	I I I I

REPEAT NEXT INST SPECIFIED BY LONG IMMEDIATE	RPTR	1 0 1 1	1 1 1 0	1 0 0 0	0 1 0 0	I I I I	I I I I	I I I I	I I I I
CLEAR ACC/PREG AND REPEAT NEXT INST LONG IMMD	RPTZ	1 0 1 1	1 1 1 0	1 0 0 0	0 1 0 1	I I I I	I I I I	I I I I	I I I I
BLOCK REPEAT	RPTB	1 0 1 1	1 1 1 0	1 0 0 0	0 1 1 0	L I I I	I I I I	I I I I	I I I I

SET PREG SHIFT COUNT	SPM	1 0 1 1	1 1 1 1	0 0 P M	0 0 0 0				
LOAD ARP IMMEDIATE	LARP	1 0 1 1	1 1 1 1	0 A R P	0 0 1 0				
COMPARE AR WITH CMPR	CMPR	1 0 1 1	1 1 1 1	0 A R X	0 1 0 0				

LOAD AR LONG IMMEDIATE	LRLK	1 0 1 1	1 1 1 1	0 A R X	0 1 0 1	I I I I	I I I I	I I I I	I I I I

BARREL SHIFT ACC RIGHT	BSAR	1 0 1 1	1 1 1 1	S H I F	1 0 0 0				
LOAD ACC LONG IMMEDIATE WITH SHIFT	LALK	1 0 1 1	1 1 1 1	S H F T	1 0 0 1	I I I I	I I I I	I I I I	I I I I
ADD TO ACC LONG IMMEDIATE WITH SHIFT	AOLK	1 0 1 1	1 1 1 1	S H F T	1 0 1 0	I I I I	I I I I	I I I I	I I I I
SUBTRACT FROM ACC LONG IMMEDIATE WITH SHIFT	SBLK	1 0 1 1	1 1 1 1	S H F T	1 0 1 1	I I I I	I I I I	I I I I	I I I I
AND WITH ACC LONG IMMEDIATE WITH SHIFT	ANDS	1 0 1 1	1 1 1 1	S H F T	1 1 0 0	I I I I	I I I I	I I I I	I I I I
OR WITH ACC LONG IMMEDIATE WITH SHIFT	ORS	1 0 1 1	1 1 1 1	S H F T	1 1 0 1	I I I I	I I I I	I I I I	I I I I
XOR WITH ACC LONG IMMEDIATE WITH SHIFT	XORS	1 0 1 1	1 1 1 1	S H F T	1 1 1 0	I I I I	I I I I	I I I I	I I I I

MULTIPLY TREG0 BY 13-BIT IMMEDIATE	MPYK	1 1 0 1	I I I I	I I I I	I I I I				

BRANCH CONDITIONAL	Bcnd	1 1 1 0	0 0 T P	Z L V C	Z L V C	A A A A	A A A A	A A A A	A A A A
EXECUTE NEXT TWO INST ON CONDITION	XC	1 1 1 0	0 1 T P	Z L V C	Z L V C	A A A A	A A A A	A A A A	A A A A
CALL CONDITIONAL	CC	1 1 1 0	1 0 T P	Z L V C	Z L V C	A A A A	A A A A	A A A A	A A A A
RETURN CONDITIONAL	RETC	1 1 1 0	1 1 T P	Z L V C	Z L V C	A A A A	A A A A	A A A A	A A A A

BRANCH CONDITIONAL DELAYED	BconD	1 1 1 1	0 0 T P	Z L V C	Z L V C	A A A A	A A A A	A A A A	A A A A
EXECUTE NEXT TWO INST CONDITIONAL DELAYED	ECD	1 1 1 1	0 1 T P	Z L V C	Z L V C	A A A A	A A A A	A A A A	A A A A
CALL CONDITIONAL DELAYED	CCD	1 1 1 1	1 0 T P	Z L V C	Z L V C	A A A A	A A A A	A A A A	A A A A
RETURN CONDITIONAL DELAYED	RTCD	1 1 1 1	1 1 T P	Z L V C	Z L V C	A A A A	A A A A	A A A A	A A A A

BRANCH. CALL and RETURN INSTRUCTIONS
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1. Delayed instructions reduce overhead by not necessitating flushing
   of the pipeline as non-delayed branches do. For example,
   the two (single-word) instructions following a delayed branch
   are executed before the branch is taken.

2. All meaningful combinations of the 8 conditions listed below
   are supported for conditional instructions:

   Condition   representation
                      in source
   ----
   1) ACC=0   (EQ)
   2) ACC<>0   (NEQ)
   3) ACC<0   (LT)
   4) ACC>0   (GT)
   5) OV=0   (NOV)
   6) OV=1   (OV)
   7) C=0   (C)
   8) C=1   (NC)

   For example, execution of the following source statement results
   in a branch if the accumulator contents are less than or
   equal to zero and the carry bit is set:

       BconD LEQ,C

   Note that the conditions associated with BIOZ, BBZ, BBNZ, BANZ,
   and BAZD are not combinations of the conditions listed above.

BIT MANIPULATION INSTRUCTIONS

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XPL         EXCLUSIVE OR DBMR with data value
OPL         OR DBMR with data value
APL         AND DBMR with data value
CPL         if (data value = DBMR) then TC:=1

XPLK        EXCLUSIVE OR long immediate constant with data value
OPLK        OR long immediate constant with data value
APLK        AND long immediate constant with data value
CPLK        if (long immediate constant = data value) then TC:=1
SPLK        store long immediate constant in data memory

BIT         TC:=bit[4-bit immediate constant] of data value
BITT        TC:=bit[<TREG2>] of data value
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1) Note that the result of a logic operation performed by the
   PLU is written directly back into data memory, thus not disrupting
   the contents of the accumulator.

INSTRUCTIONS INVOLVING ACC8, BPR

Loads/stores

SACR   store ACC in ACC8 unconditionally
CRGT   if (ACC>ACC8) then store ACC in ACC8 else ACCB→ACC
CRLT   if (ACC<ACC8) then store ACC in ACC8 else ACCB→ACC
EXAR   exchange ACC with ACC8
LACR   load ACC from ACC8

SPB   copy product register to BPR
LPB   copy BPR to product register
LBPR   load accumulator with BPR contents

Additions/subtractions

ADDR   add ACC8 to ACC
ADCR   add ACC8 to ACC with carry
SUBR   subtract ACC8 from ACC
SBBR   subtract ACC8 from ACC with borrow

ABPR   add BPR to accumulator contents
SBPR   subtract BPR from accumulator contents

Logic operations

ANDR   and ACC8 with ACC
ORR   OR ACC8 with ACC
XORR   exclusive-or ACC8 with ACC